

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant(s):	D.M. CANNON et al.	Examiner	Helene R. Rose
Serial No.	10/766,576	Group Art Unit	2163
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TITLE	METHOD, SYSTEM, AND PROGRAM FOR STORING DATA FOR RETRIEVAL AND TRANSFER		

PRE-APPEAL BRIEF REQUEST FOR REVIEW ARGUMENTS

Applicants request a pre-appeal brief review of the rejection of the claims as anticipated (§102(e)) by US Pat. No. 6,754,773 to Ulrich. (hereinafter the “Ulrich reference”) in the Final Office Action dated January 19, 2007 (“Final Office Action”).

Claim 1, for example, is directed to a “data management method, comprising: receiving multiple user files from at least one client station coupled to a data storage subsystem; storing at least some of the multiple user files in a retrieval storage pool at a first location in the data storage subsystem; creating a managed file comprising an aggregation of at least some of the multiple user files; applying first predetermined criteria to a user file stored in the retrieval storage pool to designate the user file in the retrieval storage pool as one of a higher priority and a lower priority; and deleting from said retrieval storage pool a user file designated as lower priority.” It is the Examiner’s position that the recited “creating a managed file comprising an aggregation of at least some of the user files” is met by creation of a “Refresh Node” of the Ulrich reference cited by the Examiner. The applicants respectfully disagree.

The Ulrich reference makes clear that a “Refresh Node” of the Examiner’s citation is merely a set of fields (Ulrich, col. 33, lines 1 et seq.). The fields of the Refresh Node are not “user files” which are received “from at least one client station coupled to a data storage subsystem” as required by claim 1. Instead, the Refresh node fields are fields of data created for each client that registers a “lock or share.” (Ulrich, col. 32, lines 58 et seq.) The Examiner has cited no portion of the Ulrich reference which indicates that a Refresh node field was utilized as a user file at a client station. Thus, it is clear that the fields of the Refresh Node cannot be considered to be an “aggregation of at least of some of the user files” which are received “from at least one client station coupled to a data storage subsystem” as required by claim 1.

The Examiner has also cited claim 27 of the Ulrich reference which recites “a distributed file system that aggregates files across a plurality of servers” However, the Ulrich reference

makes clear the distributed files system cited by the Examiner “allows the integration of multiple servers so that the aggregation of servers appears to a client as a single storage device.” Ulrich, col. 11, lines 53 et seq. It is respectfully submitted that servers aggregated to appear as a single storage device (storing individual files), are clearly not a “managed file” as that term is used in the present specification. The Examiner has cited no portion of the Ulrich reference which in any manner teaches or suggests “creating a managed file comprising an aggregation of at least some of the multiple user files” which are received “from at least one client station coupled to a data storage subsystem” as required by claim 1.

The Examiner has also cited a “G-group” which is described in the Ulrich reference as a “set of contiguous Gees 2538 that all relate to a single file.” However, the Ulrich reference makes clear that the Gees 2538 are a plurality of indexed rows containing fields 2532, 2534, 2536 containing information relating to a single file 2605 (Ulrich reference, col. 55, lines 65 et seq., FIG. 29). Thus, it is clear that the fields of the Gees 2538 cannot be considered to be an “aggregation of at least of some of the user files” which are received “from at least one client station coupled to a data storage subsystem” as required by claim 1.

It is the Examiner’s position that the recited “creating a managed file comprising an aggregation of at least some of the user files” is met by the description in the Ulrich reference of the server creating a new file and allocating a new G-node for the new file, citing columns 41 and 42, lines 63-67 and lines 1-42 of the Ulrich reference. The applicants respectfully disagree.

The Ulrich reference makes clear that the new file created by the server is not an *aggregation* of user files but is instead a *single* user file created at the request of a client:

“The process 1800 begins in a start state 1805 and moves to a state 1810 where the client 110 send a file allocation request that includes a filename for a new file and a file handle for the new file's parent directory.

The process 1800 moves to the state 1815, and the server node 150 indicated in the parent directory's file handle receives the file allocation request.” Ulrich, col. 41, lines 49-55

Thus, the file creation cited by the Examiner in the Ulrich reference clearly cannot be said to be “creating a managed file comprising an aggregation of at least some of the user files” as required by claim 1.

The Examiner interprets the server's allocation of a "G-node" for the new file as the "aggregation of at least some multiple user files". However, the Ulrich reference makes clear that the cited "G-node" is neither a user file nor an aggregation of user files:

"A G-node Table 330 includes a collection of G-nodes, where each G-node contains data related to attributes of a file. A one-to-one correspondence exists between the G-nodes and files stored on the server node 150." Ulrich, col. 22, lines 9-12.

Thus, it is clear that the cited G-node contains data related to attributes of a user file but is clearly not a user file itself. Moreover, a G-node appears to relate to attributes of a single user file and not an aggregate of user files.

The Examiner has cited no portion of the Ulrich reference which in any manner teaches or suggests "creating a managed file comprising an aggregation of at least some of the user files" as required by claim 1. Independent claims 14, 27, 40, 50, and 53 may be distinguished in a similar fashion.

It is the Examiner's position that the recited "applying first predetermined criteria to a user file stored in the retrieval storage pool to designate the user file in the retrieval storage pool as one of a higher priority and a lower priority" of the combined limitations "applying first predetermined criteria to a user file stored in the retrieval storage pool to designate the user file in the retrieval storage pool as one of a higher priority and a lower priority; and deleting from said retrieval storage pool a user file designated as lower priority" of claim 1, is met by a description of a checksum comparison operation provided in col. 40, lines 19-44 of the Ulrich reference. However, it is respectfully submitted that the Examiner's citation appears to describe a process for looking up a "file handle" at the request of a client:

"FIG. 16 is a flow chart that describes in more detail how the process of the state 1515 carries out a file handle look-up. The look-up process 1515 begins with a look-up request that comprises the file handle 1300 for a directory on the pathname of the desired file and continues on through each component of the pathname, retrieving a file handle for each, until a file handle for the desired file itself is returned to the client 110." Ulrich, col. 39, lines 39-41.

It is clear that the checksums are not ordered to assign priorities to individual files but are instead ordered to facilitate finding a particular file handle. Still further, it is clear that the checksums are not ordered for purposes of determining which user files are to be deleted from a storage pool but are instead ordered to facilitate finding a particular file handle.

It is the Examiner's position that the recited "applying first predetermined criteria to a user file stored in the retrieval storage pool to designate the user file in the retrieval storage pool as one of a higher priority and a lower priority" of the combined limitations "applying first predetermined criteria to a user file stored in the retrieval storage pool to designate the user file in the retrieval storage pool as one of a higher priority and a lower priority; and deleting from said retrieval storage pool a user file designated as lower priority" of claim 1, is met by a description of a file storage operation provided in column 62, lines 20-27 of the Ulrich reference. However, it is respectfully submitted that the Examiner's citation appears to describe a process for determining how a file is to be stored, not as to whether a file is to be deleted:

"In one embodiment, the server 130 determines how to store data based on the composition of the file and the availability of the different types of parity groups. As shown in FIG. 32A, of the different choices for storing File #1, the first parity string 3240 is most efficient as it has the lowest total bytes required for storage (5120 bytes total), as well as, a high utilization value (100%). Each of the other parity strings 3241-3243 are less desirable for storing the data in File #1 due to greater space requirements (larger number of total bytes) and in some cases reduced storage efficiency (lower utilization value)." Ulrich, col. 62, lines 17-27.

It is clear that the parity groups are not considered for purposes of determining which user files are to be deleted from a storage pool but are instead evaluated to determine a more optimum storage format.

The Examiner has cited no portion of the Ulrich reference which in any manner teaches or suggests "applying first predetermined criteria to a user file stored in the retrieval storage pool to designate the user file in the retrieval storage pool as one of a higher priority and a lower priority" as required by claim 1. Independent claims 14, 27, 40, 50, and 53 may be distinguished in a similar fashion.

It is the Examiner's position that the recited "deleting from said retrieval storage pool a user file designated as lower priority" of claim 1 is met by the following recitation in the Ulrich reference:

"Furthermore, the one or more Gees corresponding to the logical disk blocks where the data from the file is stored are updated to reflect their now occupied status (i.e. removed from pool of available or free disk space)." Ulrich, col. 63, lines 59-62.

The applicants strongly disagree. The recitation above has no teaching or suggestion of deleting a user file. It is respectfully submitted that it relates to the opposite, that is, a description of the removal of *free space* (not the removal of a user file) as a result of the storage (not removal) of data. The Examiner has cited no portion of the Ulrich reference which in any manner teaches or suggests "deleting from said retrieval storage pool a user file designated as lower priority" wherein the deleted user file was received "from at least one client station coupled to a data storage subsystem" as required by claim 1. Independent claims 14, 27, 40, 50, and 53 may be distinguished in a similar fashion.

The rejection of the dependent claims is improper for the reasons given above. Moreover, the dependent claims include additional limitations, which in combination with the base and intervening claims from which they depend provide still further grounds of patentability over the cited art.

The Examiner has made various comments concerning the anticipation of additional features of the present inventions. Applicants respectfully disagree. Applicants have addressed those comments directly hereinabove or the Examiner's comments are deemed moot in view of the above response.

Conclusion

For all the above reasons, Applicants submit that the pending claims 1-54 are patentable over the art of record.

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By: /William Konrad/
William K. Konrad
Registration No. 28,868